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Effects of inter-group violence on children's and
adolescents' morality

By

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In 2019, it was estimated that nearly 70% of children in the world were living in a country affected by an armed conflict, and over one in six children were living in a conflict zone (Østby et al., 2020). According to the Peace Research Institute of Oslo, the number of children exposed to armed conflicts has been increasing since the beginning of the XXI century. Since most of the research on childhood development is conducted within the WEIRD (Western, Educated, Industrialized, Rich and Democratic) population, there is still much to understand about the developmental processes that unfold amidst such adversity. Of particular interest is moral development because of its sensitivity to contextual cues and the role it plays in enabling functional relationships, social order and economic development. In order to help rebuild societies distraught by group-based violence, it is imperative to understand whether and how living under extreme violence can disrupt the moral development and psycho-social adjustment of the young generations and if so, what are the implications and how to intervene. Though some research has tackled this matter, results are still inconclusive. This work will conduct a systematic review of the empirical literature on the morality of children and adolescents exposed to inter-group violence and examine whether there is sufficient evidence to claim that exposure to this form of violence exerts an effect and in what direction, as well as provide recommendations to further advance research on the topic.

Morality encompasses a wide range of cognitive-emotional, behavioral and social processes such as perspective taking, empathy, social emotions, judgements, cooperation and aggressive behavior. These processes influence self-regulation and how people relate to each other and to institutions; and ultimately social, political, and economic dynamics at the macro-level (Wainryb & Pasupathi, 2010). Evolutionary biology claims that the human moral abilities evolved because of its effectiveness to increase individual and group fitness, and that our capacity for such large scale

cooperation as is characteristic of humans has been central to our success as a species (Ayala, 2010). A healthy moral development enables people to behave fairly, to reciprocate and cooperate with groups, be honest when trading and fulfilling their duties, respect authority and social norms, and have concern for other's welfare and the common good. So that overall, morality bears on many social and economic decisions and consequences (enforcement of justice, administration of the public resources, prosperous economic transactions, etc.) that play a fundamental role in the development of any society and even more so in one affected by inter-group conflicts and war.

It has been largely documented that chronic violence, such as the one of political conflicts, has a negative impact in human, social and civic development and contributes not just to human suffering but to economic, social and political instability and state fragility (Adams, 2017). The proper exercise of the moral capacities (e.g. cooperation, sharing, condemnation of violent acts, forgiveness, political engagement, etc.) of citizens and leaders is fundamental to overcome the problems faced by societies undergoing inter-group conflicts (Bauer et al., 2016; Wainryb & Pasupathi, 2010). However, this form of violence threatens the capacity of individuals to develop in healthy ways and undermines a person's capacity to build and maintain constructive social relations at the level of the micro-, meso-system and exo-system; as well of assuming civic responsibilities. For instance, a study showed that a decade after the end of the Tajik civil war, exposure to civil conflict undermines trust, the willingness to engage in impersonal exchanges and reinforces kinship-based norms of morality (Cassar, Grosjean & Whitt, 2013).

The literature portrays that the experiences of inter-group armed conflicts have the potential to cause moral disruptions that facilitate condoning violent behaviors, retribution, interpersonal aggression and perpetuating cycles of harm and injustice (Wainryb & Pasupathi, 2010). Such behaviors are adaptive to the dangerous demands of the context but also contribute to maintain the violence; they hinder the resolution of the conflict and the recovery and development that must ensue. Chronic

violence is, hence, a complex problem that self-reproduces and tends to be normalized so that it prevails in the long-term.

On the other hand, there is another body of research indicating that inter-group violence can impel people to act more morally, perhaps to survive or because of an empathy born from violence. A study conducted after Nepal's 10-year civil war, found that the less social people were significantly more likely to migrate and take refuge in another place, while the people who faced more obstacles to do so and had to stay exhibit higher levels of prosocial motivation (Gilligan et al., 2014). The war affected communities of Nepal showed more altruistic giving, public goods contributions, investment in trust-based transactions, and willingness to reciprocate trust-based investments. Similarly, a study with Liberian communities found that those most affected by the 2010-2011 civil war behaved more altruistically both to the in-group and to the out-group (Hartman & Morse, 2018). These results suggest that violence does not have to lead to anti-social behavior and could in some circumstances promote pro-social behavior.

Since the literature on inter-group conflicts and different aspects of morality present results with effects in opposite directions, more research needs to be conducted to examine why. An effective way of studying this would be to inquire specifically in the moral development of the children and adolescents that experienced the violence. First, because they are in their early stages of development and can be more sensitive; second, because with this population the effects could be studied for a longer period; and third, because the young could play a critical role in the maintenance or resolution of the conflict and the development of the post-conflict society.

Early stages of life can be pivotal in the course of an individual's socio-moral development. Though components of morality such as empathy, preference for fairness and pro-sociality emerge at a very early age, it is since middle childhood (6-12 years) that people are most sensitive to culture-specific social norms and develop internalized standards for social behaviors (Cowell & Decety, 2015;

Dubow et al., 2009). Then throughout adolescence, pro-social and anti-social cognitions and behaviors become gradually more stable. A cross-cultural study conducted in eight different countries found not only that adult's pro-social behavior is predicted by what other would judge to be the social norm, but that children respond similarly in their early years to the social norms across societies and begin to respond differentially and manifest cultural differences in middle childhood (House et al., 2019). Thus, highlighting the importance of context-specific social normativity in moral development and behavior; and the precise influence it exerts in middle childhood.

This is why the later years of childhood constitute a period in which exposure to violence is expected to have robust and enduring effects (Guerra & Huesmann, 2014). Children growing up amidst inter-group conflict are being socialized under very particular social norms. They are embedded in a 'culture' of violence, lawlessness and dehumanization; they frequently observe or are victims of harmful acts; and they witness a lack of proper systemic response to these problems. Thus, they must develop their moral schemas based on this social reality, which differs significantly from the one of WEIRD societies.

Furthermore, at a neurological level, the neuro-cognitive adaptations that the stress of chronic violence demands also induce a black-and-white framework that facilitates rapid assessment and action to favor imminent survival in the face of mortal threats. Such adaptations impair the capacity for empathy and the nuanced deliberate thinking required for constructive relations and socially mediated actions (Adams, 2017). Ergo, these neurological effects could be affecting children's moral cognition and even behavior.

On the other hand, research on the effects that violence exerts on child development has already shown interactions with other variables, especially parenting. Studies on urban violence have found that family function moderates the risk of violence perpetration in exposed youth (Gorman-smith, Henry & Holan, 2004). Studies on chronic violence have also identified family function as risk

or protective factor in youth's aggressive behavior, and parent-child bond as a predictor of moral development and emotional adaptation in adulthood (Adams, 2017). If these other variables are the ones having an effect, it could be possible that violence exposure does not have a direct effect on moral and emotional development. It is crucial to observe empirically then the moral development and behaviors of youth exposed to violent conflicts and any existing differences comparison to the patterns of development of the non-exposed youth; as well as inquire about the implications of the moral development of this population in the development of the conflict-afflicted society.

At present, the impact of inter-group violence on moral development has not been well-characterized. Most research on youth from war-affected countries has focused on mental health with some aspects of psychosocial adjustment being addressed, and a few reviews have been published on said literature (Betancourt, et al., 2013). While research specifically on moral outcomes is limited. This work retrieved and analyzed the empirical research that evaluated the effects in some moral outcome even though the studies objective was to evaluate effects on mental health. This way there was more studies to compare and draw conclusions from.

A cursory look at the literature on mental health and psychosocial adjustment already reveals mixed results regarding the impact on morality. Several studies have documented the damaging effect of war and ethnic-political violence in the psychosocial adjustment of young people, mainly in post-traumatic stress (PTS) symptoms and internalizing and externalizing behaviors (Dubow et al., 2010; Hewitt, 2014; Macksoud & Abber, 1996; Scharpf et al., 2021). Other research in Palestine, Lebanon, and Croatia found no significant psychological symptoms (Bosqui et al., 2017; Macksoud & Aber, 1996; Raboteg-Saric, et al., 1994). Perhaps more surprisingly, some studies conducted in Uganda, Nepal, Lebanon and Palestine showed that exposed youth presented positive effects in their psychosocial adjustment, such as more pro-social behavior (Bauer et al., 2018; Gilligan et al., 2014; Macksoud & Aber, 1996; Punamaki et al., 1997).

The mixed results suggest that inter-group violence does not have to produce a significant rupture in socio-moral development but also show that we don't understand yet very clearly the effects of this type of violence is having in the development of individuals, which is key to the understanding and intervention of such conflicts. If indeed inter-group violence can foster pro-sociality, this is paramount importance to societies facing such conflicts and merits rigorous research to confirm it. Effects on moral development need to be further examined and clear directions to how to advance the research for this purpose.

So far there has not been a concerted effort to summarize the empirical literature on the effects of inter-group violence on moral outcomes of children and adolescents through a systematic review process. The purpose of this review is to examine the research conducted to date on childhood and adolescence exposure to group-based violence and subsequent moral outcomes. I specifically looked at quantitative studies of the relationship between these two variables, compare results about the effects of exposure on morality and identify possible factors that could explain discrepancies. Finally, avenues for future research are delineated.

Methodology

The literature review was guided by the PRISMA standards for systematic reviews (Page et al., 2020). To be included in the review, the articles must have had (i) participants that were exposed to war events during their childhood; (ii) a measure of a component of morality in its cognitive, emotional or behavioral dimension; (iii) data collected during childhood or adolescence. An article was excluded if (i) it evaluated the impact of war events in videogames or media; (ii) participants were actively involved in the conflict (child soldiers); (iii) was qualitative research, review, thesis or unpublished work.

Sample of studies

The search was performed in 4 research databases: APA PsycNET, PubMed, Web of Science and Google Scholar. These databases were selected intentionally based on their different focus so as to

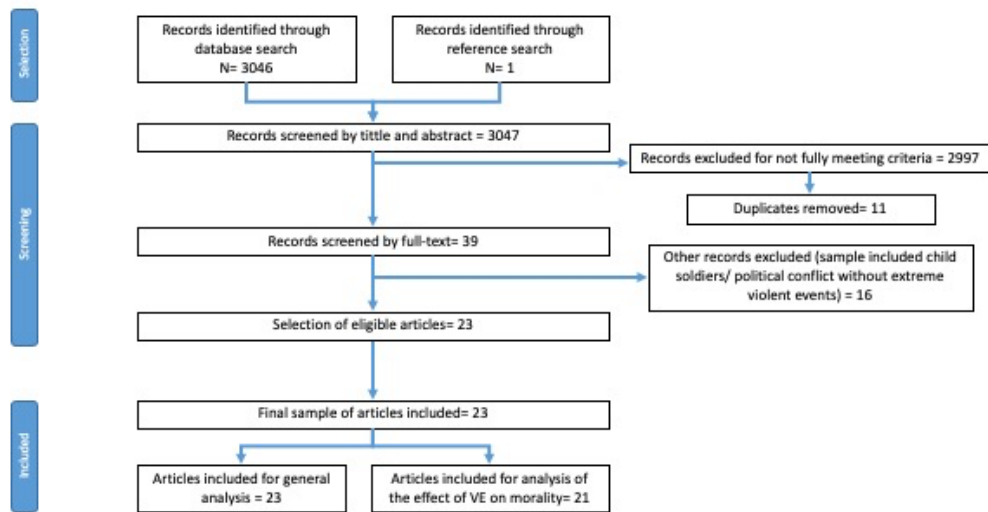
widen the scope of the search. The search was conducted from December 7 of 2021 until January 31 2022. The key words used in the first three databases were “war OR warfare OR armed conflict OR extreme violence OR political violence” AND “empathy OR moral OR morality OR aggression OR altruism OR prosociality” AND “children OR child development OR adolescent OR youth” NOT “domestic violence OR family violence OR intimate partner violence OR domestic abuse OR victimization” NOT “media OR games”. The results were filtered with year of publication between 1990 and 2022, and only empirical articles when the data base allowed for this filter. Due to the features of the advanced search of Google Scholar, the keywords used in this search engine were “children AND (war OR armed OR violence) moral, OR empathy, OR prosocial, OR aggression -abuse - domestic -violence, -media, -games, -refugees, -ex-combatants”. This search engine has different restrictions so key words had to adjusted. The results of the search were 1570 for the APA database, 447 for PubMed, 410 for Web of Science, and 619 for Google Scholar for a total of 3046.

The other method employed for finding relevant articles was searching through references of other literature. The papers that were not already identified through the search in the four data bases and were cited as empirical evidence of any association between violence exposure and morality in children, were retrieved and evaluated. Only 1 new record was retrieved this way.

A first selection of the papers through the title and the abstract, excluded 2997 articles that did not meet one of the criteria and 11 duplicates. After a second selection was performed based on the full text, only 23 met the criteria fully.

After the selection of articles was complete, data extraction included the following information: (i) authors, year of publication, title of publication, journal; (ii) sample size, age, sex, country, region and other sociodemographic characteristics; (iii) type of conflict, conflict duration, exposure duration (definite or indefinite) and time passed since exposure until data collection; (iv) type of violence subjects were exposed to, developmental period in which subjects were exposed to the

Figure 1. Selection of studies.



violence, and developmental period in which outcomes were measured; (v) research design: correlational or longitudinal, analysis: descriptive, correlational and causal, and if there was a control group; (vi) moral dimension addressed (behavioral, cognitive-emotional, reasoning), how it was measured (self-report/interview, parent report, teacher report, peer report, behavioral task or neuroimaging), and instruments used; (vii) general and specific effects of violence exposure on moral outcomes; and (viii) main findings. The effects were coded both in terms of whether the outcome decreased, increased or did not change significantly; and whether these changes were detrimental, beneficial or inconsequential for morality.

Results

Overview

The final sample comprised of 23 empirical research papers. However, two articles carried out analysis and presented results of two studies with different samples and other methodological differences. It was decided that each should be coded and analyzed independently. The results presented below correspond then to 25 studies.

The majority (56%) were carried out in the Middle East (Israel-Palestine, Saudi Arabia and Lebanon). Studies from Israel-Palestine represented 44% (11 papers) of the total sample; however, 4 were part of the same study and corresponded to different analysis of the same data. The second country with the highest percentage of papers was Colombia (12%; n=3), the only one from the American continent. The rest of the studies were from Croatia, Sierra Leone, Kenya, Tanzania, Bosnia and Herzegovina, Republic of Georgia and Turkey.

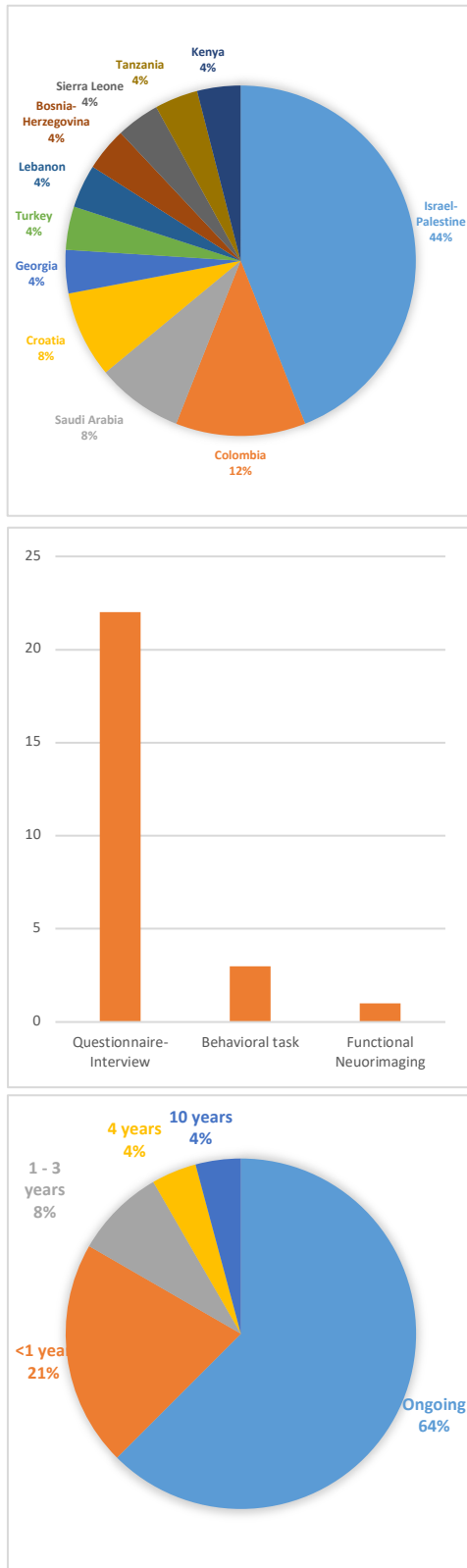
Table 1. Characteristics of the studies

Author	Year	Journal	Sample size	Country	Age Sample	Conflict dates	Exposure
Al-Eissa	1995	Social Science & Medicine	226	Kuwait-Saudi Arabia	7-14	1990-1991	definite
Al-Krenawi & Graham	2012	Child and Adolescent Mental Health	971	Israel-Palestine	14-18	1948 - present	indefinite
Ardila-Rey, et al.	2009	Social Development	94	Colombia	5-14	1964-present	indefinite
Bauer, et al.	2014	Association for Psychological Science	543	Republic of Georgia	3-12	5 days, 2008.	definite
Bauer, et al.	2014	Association for Psychological Science	586	Sierra Leone	18-30	1991-2002	definite
Bosqui, et al.	2017	Peace and conflict: Journal of Peace psychology	99	Israel-Palestine	12-19	1948 - present	indefinite
Boxer, et al.	2013	Child Development	1501	Israel-Palestine	8-20	1948 - present	indefinite
Dubow, et al.	2019	Aggressive Behavior	1051	Israel-Palestine	8-20	1948 - present	indefinite
Dubow, et al.	2010	Child Development	600	Israel-Palestine	8-14	1948 - present	indefinite
El Hatw, et al.	2015	Saudi Med Journal	343	Saudi Arabia	5- 17	2009-2010	definite
Elbedour, et al.	1997	Child abuse & neglect	93	Israel-Palestine	8-13	1948 - present	indefinite

Garrod, et al.	2003	Journal of Moral Education	152	Bosnia and Herzegovina	6-12	1991-1995	definite
Henrich & Shahar	2013	Journal of the American Academy of Child & Adolescent Psychiatry	362	Israel-Palestine	12-16	1948 - present	indefinite
Hewitt	2014	Acta Colombiana de Psicología	284	Colombia	7-16	1964-present	indefinite
Huesmann, et al.	2017	Developmental and Psychopathology	1501	Israel-Palestine	8-17	1948 - present	definite
Kara & Selcuk	2021	Child Psychiatry & Human Development	115	Turkey	3 - 8	2015-2016	definite
Kerestes ^v	2006	International Journal of Behavioral Development	649	Croatia	12-15	1991-1995	definite
Kithakye, et al.	2010	Child Development	84	Kenya	3-8	2 m 2007-2008	definite
Levy, et al.	2019	Nature Communications	323	Israel-Palestine	2-13	1948 - present	indefinite
Macksoud & Aber	1996	Child Development	224	Lebanon	10-16	1975-1991	indefinite
Posada	2012	Revista Colombiana de Psicología	96	Colombia	6-17	1964-present	indefinite
Qouta, et al.	2008	Aggressive Behavior	640	Israel-Palestine	6-16	1948 - present	indefinite
Qouta, et al.	2008	Aggressive Behavior	225	Israel-Palestine	10-14	1948 - present	indefinite
Raboteg-Saric, et al.	1994	European Journal of Personality	1168	Croatia	5-6	1991-1995	definite
Scharpf, et al.	2021	European Child & Adolescent Psychiatry	217	Tanzania	7- 15	2015-2018	definite

Moreover, 32% of the papers were published between 2015 and 2021, 52% between 2000 and 2014, and 16% in the past century. Though the data is from a different year, some going as far as using data from 8 years before.

Figure 2. Characteristic of the studies.



The ages of the samples started from 2 years old and went up to 84 years old. However, the study that included an adult sample was conducted a decade after the war ended and the article included presented the results of only those adults that were exposed between the ages of 7 to 20. Therefore, the range of the sample age of the studies included in the review was from 2 years to 30 years of age.

Based on the dates of the conflict, the dates of the data collection and the ages of the sample, I estimated the developmental period in which the subjects were exposed to the war. In coherence with the objective of this systematic review, all of the subjects of these studies were exposed during their youth (from early childhood to late adolescence). According to these estimates, almost half of the studies (44%) had a sample that had been exposed to violence since early childhood (7 years) and until early adolescence (15 years). While 28% had a sample that had been exposed since early childhood until late adolescence (20 years). Only 24% of the studies were conducted with subject exposed exclusively in their childhood (<12 years) and none of the studies included were conducted with subjects that were exposed exclusively in their adolescence.

60% of the studies were conducted in a population with an ongoing conflict, so that the sample was still experiencing the effects of war when data was collected. In 20% of the studies data was collected less than a year since war exposure. So 80% of the studies are measuring short-term effects. One article studied the long term effects of an exposure to violence that occurred during childhood and adolescence (10 years after the exposure ended). Other 3 studies collected data 1, 3 or 4 years after war exposure. Finally, one study stated that the date since last exposed was unknown but that participants had been forcefully displaced because of the armed conflict at least 1 year ago.

Morality is a wide construct and there are different dimensions that could be studied. Most studies (72%) were interested in the moral behavior of the subjects exposed to extreme violence, mainly aggressive behavior and pro-social behavior. In order to do so, 89% of them relied on questionnaires and only 11% applied a behavioral task. Of the ones using questionnaires, 50% relied on the report of one source (the child/adolescent or a teacher), 19% on the report of two sources, and 31% on the report of three sources. On the other hand, 24% of the studies were interested in the moral reasoning of the participants. As expected, they relied entirely on self-reports and interviews. A much smaller portion (8%) studied cognitive-emotional processes of morality (empathy, theory of mind and executive function). One used a behavioral task and the other functional neuroimaging. Overall, 80% of the studies used self-reports, 32% used parent reports, 16% used peer reports, 12% used teacher reports, 12% a behavioral task, 4% neuroimaging and 40% used more than one method.

Aggressive behavior (52%) was the most common moral outcome measured in the studies. Followed by pro-social behavior (32%). The other outcomes measured were hostility (12%), unequal distribution of resources (12%), retaliation (8%), violence commission (8%), empathy (8%), and socio-cognitive skills (4%).

If we look at all of the descriptive, correlational and quasi-experimental studies together, 76% presented at least one result unfavorable for morality: presence of aggression, violence, unfair

distribution, retaliation or low pro-sociality, empathy and socio-cognitive skills; and 28% of them presented at least one favorable result: high pro-sociality, empathy and socio-cognitive skills or low aggression, violence, unfair distribution and retaliation. While 8% of the total sample of studies presented both a prejudicial and a beneficial result; and 16% presented neither.

The majority of the studies were cross-sectional (72%), 24% did a longitudinal analysis and one study had mixed methods. The latter conducted a cross-sectional analysis in one group of the sample and a longitudinal analysis in another group of the sample that were tested before and after the war began. From the longitudinal studies it is worth to note that one carried out a pre and post-tests after a 2-month armed conflict, and did not do follow ups. The other 5 longitudinal studies were cohort studies of Israeli and/or Palestinian youth with follow ups until 4 or 10 years.

Regarding the type of analysis, though 20 had the objective of establishing causal relations, 2 did not measure exposure to violence nor had a control group. Another 3 studies were correlational. Finally, 2 of the studies were descriptive even though the manuscript explicitly stated that they would study the effects or association of violence exposure and an aspect of morality. Hence, 60% of the 25 studies met the criteria for a quasi-experimental research.

These 18 studies are the ones that were included in the following detailed assessment of the empirical evidence on the effects of exposure to war during childhood and adolescence on morality. The results of the studies that were descriptive were excluded from this assessment, and the ones of the correlational studies are only mentioned briefly.

Relationship of exposure to war and moral outcomes

Out of the three cross-sectional studies that analyzed correlations between war exposure and moral outcomes, one from Saudi Arabia (Al Elissa, 1995) and one from Colombia (Posada, 2012) reported that violence exposure was related to more hostility and endorsement of violent retaliation, respectively. Both of them sampled youth that had been forcefully displaced because of the violence.

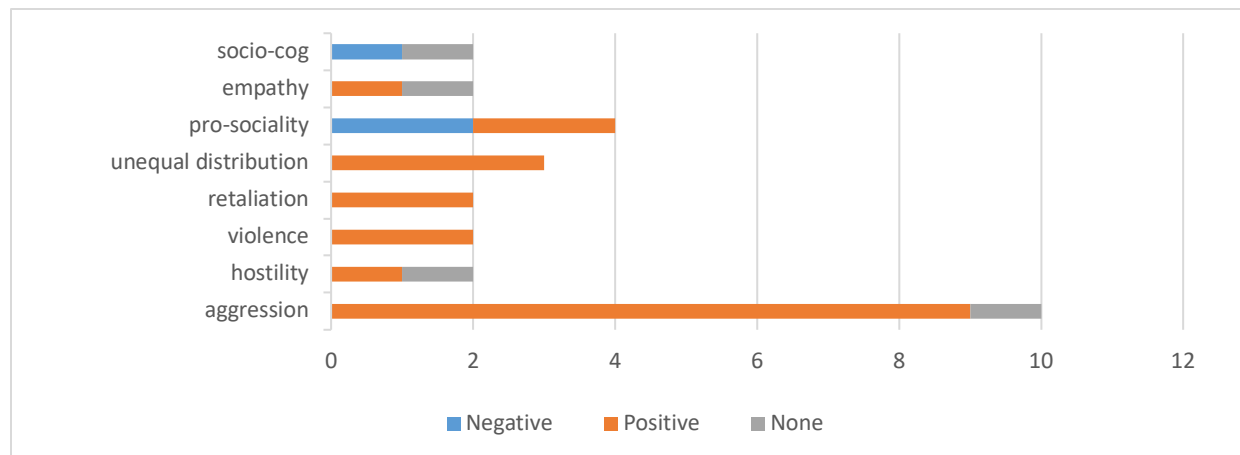
In the Colombian case, participants had migrated to a very poor and violent neighborhood and researchers did not know since when. Therefore, the effects of urban violence could be confounding or interacting with the effects of previous exposure to the armed conflict.

In contrast, another study from Saudi Arabia (El Hatw et al., 2015) found that war exposure correlated with more prosocial behavior and less aggression. Although from the same country, the two Saudi Arabian studies had different samples, with different nationalities (Kuwaiti refugees versus Saudi Arabians), related to historically different conflicts and were published a decade apart.

Effects of war exposure on morality

The two studies that carried out a cause-effect analysis but did not have a control group nor measured exposure to violence were not included in this review of the evidence of the effects of exposure to war. For this reason, results are presented for 18 studies, out of which 67% found at least one detrimental effect, 28% found at least one beneficial, and 5% found no effect. The effects per outcome are assessed below. As a note, some studies considered the relationship significant with a level of significance of .10.

Figure 3. Effects on moral outcomes. Positive means there was an increase in the outcome, negative means there was a decrease in the outcome, none mean there were no significant differences. For empathy the study that reported an increase of mentalizing activity was coded as negative since this is harmful.



Aggressive behavior

10 studies measured the effect of war on aggressive behavior and 90% found that it increased aggression (Boxer et al., 2013; Dubow et al., 2010; Henrich & Shahar, 2013; Huesmann et al., 2017; Kerestes, 2006; Kithakye et al., 2010; Krenawi & Graham, 2012; Qouta et al., 2008), while 10% found no effect (Macksoud & Aber, 1996). None of them used a control group. 70% of them studied the Israel-Palestine conflict (Boxer et al., 2013; Dubow et al., 2010; Henrich & Shahar, 2013; Huesmann et al., 2017; Krenawi & Graham, 2012; Macksoud & Aber, 1996; Qouta et al.), 43% of them were longitudinal with measures during 3 or 7 years from middle childhood to late adolescence, and almost half (43%) analyzed data from the same sample (Boxer et al., 2013; Dubow et al., 2010; Huesmann et al., 2017). All of the studies evaluating aggression in youth living amidst the Israeli-Palestinian conflict found that violence exposure predicted higher levels of aggressive behavior. Hence, results on the effect of the Israeli-Palestinian conflict on youth's aggressive behavior rather consistently show that it increases with exposure.

Interestingly, in the first published article of several from a longitudinal study with cohorts of Israeli and Palestinian children, cross-sectional analysis of data at wave 1 revealed a weak relation between exposure to violence and aggressive behavior and no relation for 8 year olds (Dubow et al., 2010). After 4 years there was a significant effect in all age cohorts, even when controlling for socio-demographic variables and when differentiating ethno-political violence from microsystem violence (community, family and school) (Boxer et al., 2013). Seven years after the first wave, the effect persisted and they found that it was mediated by changes in normative beliefs about aggression, aggressive script rehearsal and emotional distress (Huesmann, 2017). Such results highlight the relevance of longitudinal studies to identify more precisely the effects of violence exposure.

A study found a mitigating power in emotion regulation (Kithakye et al., 2010) and three in positive parenting (Kerestes, 2006; Qouta, 2008). Though in one study it varied according to the person who reported the aggressive behavior, thus highlighting the need to use different sources for

this outcome (Kerestes, 2006). Another study found variation in the effects of violence exposure with the type of traumatic event experienced and its severity (Kithakye et al., 2010).

The only study that found no effect (Macksoud & Aber, 1996) was also from the Middle East region but from the country of Lebanon and had a sample that was mostly Lebanese. This cross-sectional study analyzed the effect of different types of traumatic war experiences in youth between 10-16 years of age, and found no effect on aggressive behavior. Participants had been exposed to the war during all of their lives and data was collected while the conflict was still ongoing. This is one of the older papers, it relied only on self-reports but the sample was representative by religion and did not analyze interactions. It is possible that this atypical result could be related to an unknown variable that mitigated the effects of the conflict in the Lebanese population.

Hostility

Only two studies measured the effects of war exposure on hostility and with different results. Though both sampled Palestinian adolescents and relied on self-reports, one found an increase of hostility with exposure (Krenawi & Graham, 2012) and the other no effect (Bosqui et al., 2017). An important difference was that the latter studied the interactions of war exposure, caregiver availability and PTS on hostility (Bosqui et al., 2017); while the former did not analyze possible interactions and mechanisms (Krenawi & Graham, 2012). When accounting for caregiver availability and post-traumatic stress, exposure was not independently associated with hostility and so the authors propose that the mechanism of the link between the two is traumatization.

Violence

The two studies that analyzed the effect of war exposure on violence were from Israel-Palestine. Different forms of violent behaviors were assessed: severe physical aggression (Dubow et al., 2019; Henrich & Shahar, 2013), carry a weapon (Henrich & Shahar, 2013), participation in a gang fight (Henrich & Shahar, 2013) or violent demonstrations (Dubow et al., 2019), willingness to participate

in violent demonstrations and having been arrested (Dubow et al., 2019). Both studies were longitudinal (4 years and 7 years), relied only on self-reports, and found that exposure to violence predicted violent behaviors. One interesting finding was that concurrent exposure predicted more violent and anti-social behaviors than cumulative exposure (Dubow et al., 2019). More research should compare effects in a sample that is still in the conflict and one that is not.

Unequal distribution of resources

Three cross-sectional studies measured the impact on how the subjects distributed resources: equally or unequally. Two studies were part of one project in which the same behavioral tasks were applied with two populations: children in Georgia recently exposed to a 5-day war and adults from Sierra Leone that had been exposed a decade ago to the 1991-2002 war in their middle childhood and adolescence (Bauer et al., 2014). The other study was conducted with children and early adolescents from Colombia and examined their moral reasoning towards several hypothetical situations including distribution of resources in another country (Ardila-Rey et al., 2009).

The studies found that exposure to violence was associated with engaging or condoning unequal distribution. Moreover, since the behavioral studies differentiated between distribution towards the in-group and out-group, they evidenced that equal distribution between the participant and a member of the in-group increased with exposure to violence while equal distribution with a member of the out-group decreased (Bauer et al., 2014). Also, since the participants had been exposed to the war in different ages and completed the same tasks, they were able to compare the effects according to age of exposure. This allowed for the identification of a differential window in which war exposure has an enduring psychological effect on social motivations. Studies with such specific research questions that reveal more nuances in the results are very useful to better understand the effects of violence exposure on complex processes as morality or even an aspect of morality.

Retaliation

Only one quasi-experimental study inquired on the effect of violence exposure on retaliation (Ardila-Rey et al., 2009). Results indicated that exposure increased the endorsement of acts of revenge.

Pro-sociality

The most inconsistent results are on pro-social behavior. Half of the 4 studies found that exposure to violence during youth decreased pro-social behavior (Kerestes, 2006; Kithakye et al., 2010) and half found that pro-social behavior increased (Macksoud & Aber, 1996; Scharpf et al., 2021). None of the studies that evaluated pro-social behavior found that there was no effect on this outcome.

The studies that found lower pro-sociality in exposed youth were conducted in Croatia (Kerestes, 2006) and Kenya (Kithakye et al., 2010) and data was collected after the war had ended. The study from Kenya relied only in teacher reports (because they were the most informed source) of

Table 2. Effects of inter-group violence on different moral outcomes.

Reference	De	Time EV	Source of report							Effect on moral outcome						Effect on morality					
			C	I/M	Self	Par.	Tea.	Peer	Neur.	Beh.	Pro	Emp	Sc	Agg	Ho	Vio	Ret	Dis	B	D	0
Al-Krenawi & Graham. (2012)	C	0	N		x								+	+						x	
Ardila-Rey, et al. (2009)	C	0	N		x												+	+		x	
Bauer, et al. (2014)	C	6 m	N						x								-	+	x	x	
Bauer, et al. (2014)	C	10 y	Y						x								-	+	x	x	
Bosqui, et al. (2017).	C	0	N *		x										0					x	
Boxer, et al. (2013)	L	0	N		x	x			x					+						x	
Dubow, et al. (2010)	C	0	N		x	x			x					+						x	
Dubow, et al. (2019)	L	0	N		x											+				x	
Henrich & Shahar. (2013)	L	0	N		x									+		+				x	
Huesmann, et al. (2017)	L	0	N		x	x			x					+						x	
Kara & Selcuk. (2021)	C	1 y	N						x			+		-	0				x	x	x

Kerestes. (2006)	C	3 y	N *	x		x	x	-		+		x	
Kithakye, et al. (2010)	L	3 m	N *			x		-		+		x	
Levy, et al. (2017)	L	0	Y *	x			x		-			x	
Macksoud & Aber. (1996)	C	0	N *	x				+		0		x	x
Qouta, et al. (2008)	C	0	N *	x	x	x				+		x	
Qouta, et al. (2008)	C	0	N	x						+		x	
Scharpf, et al. (2021)	C	0	N *	x	x			+				x	

Abbreviations: De: research design. Time EV: time occurred since exposure to violence until data collection. C: control group. I/M: Interactions or mechanisms. Self: self-report or interview. Par: parent report. Tea: teacher report. Peer: peer report. Neur.: functional neuroimaging report. Beh.: behavioral-task report. Pro: pro-sociality. Emp: empathy. Sc: socio-cognitive skills. Agg: aggression. Ho: hostility. Vio: violence. Ret: retaliation. Dis: unequal distribution of resources. B: beneficial effect on morality. D: Detrimental effect on morality. 0: no effect on morality.

Answers: C- cross-sectional, D- descriptive, L – longitudinal, * significant effect of an interaction or mechanism with a variable other than exposure to violence, Y – Yes, N – No, + - increase on the outcome, - - decrease on the outcome.

violence exposure and child behavior, and offered the unique opportunity to compare a measure completed 4 months before the war to one 3 months after the war. The study in Croatia collected child, teacher and peer reports and, as other studies (Kerestes, 2006; Qouta et al., 2008), evidenced differences in the effects according to the source.

On the other hand, the studies that found that pro-sociality increased with violence exposure were conducted in Lebanon and Tanzania while the war was still ongoing. The study in Lebanon relied only on self-reports and found the positive effect in pro-sociality specifically in children that had been separated from their parents and who witnessed violence but were not directly victimized nor engaged in it (Macksoud & Aber, 1996). The study from Tanzania collected child and parent reports and found that high-quality friendships and the mother's support network promoted pro-social behavior (Scharpf et al., 2021). It also found that violence by the mother increased likeliness of externalizing behaviors. Therefore, both studies revealed differential effects of warfare experiences on pro-sociality and hint at interactions with variables related to the parents.

It is worth noting that the two studies that found decreased pro-sociality also found increased aggression, while one of the studies that found increased pro-sociality found no significant effect in aggression. So there appears to be a consistency in these two outcomes.

Empathy and socio-cognitive skills

Two studies measured three socio-cognitive skills: empathy, theory of mind and executive function. A study in Turkey employed behavioral tasks in 3 to 8-year-old children a year after a 2015-2016 conflict to analyze the effect that war exposure can have over these three skills. It reported that violence exposure had no effect on theory of mind but predicted lower executive function and higher empathy (Kara & Selcuk, 2021). On the other hand, functional brain imaging from a longitudinal study conducted with Israeli children that simultaneously evaluated parent-child synchrony and child emotional reactivity, found no direct effect of exposure to violence on the neural empathic response

(Levy et al., 2019). Instead, mother-child synchrony and child temperament each mediated and moderated the effect, such that the affective empathic response could be attenuated and mentalizing activity could be heightened in a way that seems to indicate emotional hyper-reactivity to distressing stimuli. Thus offering more evidence of the role of parenting in the effects of exposure to war during early stages of development, and of individual differences.

Discussion

Research on the mental health and social adjustment of children and adolescents that experienced group-based violence has been growing in the past decades. Results have shed light on the moral development of this population but there is still a vast dearth in the field. Much more needs to be done to address morality comprehensively, provide more evidence and explain the apparently contradicting results reported so far.

Limited moral outcomes have been systematically researched. Aggressive behavior is the leading one, but more than two thirds of the studies are from Israel and Palestine (Boxer et al., 2013; Dubow et al., 2010; Henrich & Shahar, 2013; Huesmann et al., 2017; Kerestes, 2006; Kithakye et al., 2010; Krenawi & Graham, 2012; Macksoud & Abber, 1996; Qouta et al., 2008). Next is pro-social behavior with just 4 papers and very contradicting results (Kerestes, 2006; Kithakye et al., 2010; Macksoud & Aber, 1996; Scharpf et al., 2021). Research on hostility, retaliation, distribution of resources, socio-cognitive skills and violent behavior is too scarce and heterogeneous to draw conclusions yet. Nonetheless, that the majority of studies found some association between violence exposure and one of the moral outcomes observed support the idea there is an effect.

Evidence on aggressive behavior, for instance, consistently shows an increase with war exposure (Boxer et al., 2013; Dubow et al., 2010; Henrich & Shahar, 2013; Huesmann et al., 2017; Kerestes, 2006; Kithakye et al., 2010; Krenawi & Graham, 2012; Qouta et al., 2008). Only one study did not find a significant effect (Macksoud & Abber, 1996) and no study reported a decrease in

aggression. The few findings on severe violent acts, such as physical attacks and criminal behavior, have shown as well that war exposure increases the likeliness of committing violence (Dubow et al., 2019; Henrich & Shahar, 2013). Hence, so far the evidence points at a detrimental effect on the spectrum of aggressive and violent behaviors. The landscape is less clear when looking at pro-sociality. Half of the studies showed that war experiences predicts a decrease in pro-social behaviors and the other half an increase. Though, the fact that no study has reported no effect and the divergent results, mark this element of morality of particular interest for future research.

When considering just the studies conducted in Israel-Palestine, all but one found detrimental effects and none found beneficial effects. Thus, even though the general literature is still inconclusive, we could say that the violence experienced in the particular case of Israeli and Palestinian youth growing up in this historical conflict is having a negative impact in their morality. That results are clearer when analyzing studies from the same country and conflict, further suggests that contextual factors are relevant to better understand the effects of warfare on moral development.

It is possible that the specific features of the conflict shape morality in different ways. For example, extensive conflicts that have strong and coherent embedded ideologies and distinct adversaries, as is the case in Israel-Palestine, may tend to be related with more hostility and aggression. While a short lived conflict with less strong ideologies, as was the case of the Turkey and Tanzania civil wars, could be more likely to enable pro-sociality. However, research has not been interested in analyzing the effects of these specific features of inter-group conflicts on the moral outcomes of children and adolescents.

More research is also needed to identify particular mediators and moderators. The current studies that observed possible ones found that they did have an impact. For instance, emotional regulation mitigated the effects of violence on aggression and promoted prosocial behaviors (Kithakye, 2010); and child temperament moderated effects on the neural basis of empathy (Levy,

Goldstein & Feldman, 2019). Several studies also reported that the effect on aggression and violence depends on the type and severity of violent events experienced by child or adolescents (Kithakye et al., 2010; Macksoud & Abber, 1996; Posada, 2012). Even more studies found that positive parenting impacted the effects of violence exposure: mother-child synchrony protected from possible attenuation of the neural empathic response (Levy, Goldstein & Feldman, 2019); violence by mothers increased likeliness of externalizing behavior problems (Scharpf et al., 2021); good and supporting parenting practices moderated the link with aggressive behavior (Qouta et al., 2008); caregiver availability and post-traumatic stress could be the mechanism for war exposure effects on hostility (Bosqui et al., 2017); and mother's social support and child's quality friendship in the face of adversity promoted pro-social behaviors (Scharpf et al., 2021). In sum, evidence is signaling that factors like parenting and specific types of war events could be decisive in whether warfare is detrimental, beneficial or inconsequential in children and adolescents' morality.

Limitations and future research

An issue in this area of research are the sources and type of reports. Most studies rely on single sources and different forms of self-reports. Studies on aggression that compared results according to the source identified differences in the effect that war exposure exerted (Kerestes, 2006; Qouta et al., 2008). The extensive use of questionnaires, interviews and projective techniques can bias the information because as is already known, moral judgments do not predict moral behavior (Batson & Thompson, 2001). Therefore, weakening the conclusions of these studies.

Furthermore, papers hardly analyze independent variables related to the characteristics of the violent conflict. Despite some differentiating between witnessing and being victimized, and between particular experiences (e.g. seeing a person get hurt, seeing a murder, hearing gun fire), the majority do not make distinctions between these or other factors in the nature of the conflict. It is surprising that there are no studies comparing the effects per length of exposure, for it is logical to presume that

having experienced these events for years compared to one month, for example, would have a different impact.

In addition to duration, the distinction between exposure at different developmental periods has also been generally neglected. Comparisons have been made between participants with different ages when the data was collected and only one compared the effects in participants that had different ages when exposed to the violence (Bauer et al., 2014). Though theory has strongly proposed that middle childhood should be the most sensitive period for socio-moral development to be affected by violence exposure (Guerra & Huesmann, 2004), the current evidence does not allow for confirming or refuting this. Studies do not compare subjects that were exposed solely during middle childhood to subjects exposed in other periods. Instead, most of the participants in a study were exposed during shared developmental stages. Even in the Israel-Palestinian longitudinal studies that followed up three cohorts with different ages (8, 11 and 14) the older cohorts had still been exposed to violence in their childhood and so exposure at different stages of childhood and adolescence could not be analyzed. Only the study in Sierra Leone was able to do it because the sample included a wide range of adults and so they had been exposed to the past war in different moments. This study concluded that the window for effects in the social motivations was from 7 until 20 years of age, there were no effects before 7 and muted effects after 20-21 years (Bauer et al., 2014).

This was also the only study that observed long term effects of warfare experiences. While it collected data 10 years after the war had ended, the rest of the studies that did not collected data while the conflict was still ongoing, did so a couple of months after or at most 3 years after. Ergo there is a gap in long term effects of war exposure.

Despite these limitations, many studies have important methodological strengths. Multiple studies have a longitudinal design, most of them are examining causal relationships, and some have started to investigate interactions and mechanisms in the effects of exposure to violence. Several have

a comparison group, which can be challenging for this particular research question, and a few of the more recent ones used behavioral tasks and neuroimaging. Now, to strengthen the evidence base on the effects of childhood and adolescence exposure to inter-group violence, a much bigger number of studies are needed and with more cohesive research designs to improve the generalizability and comparability of results. The following considerations are made for future research.

First there is a need to target a wider diversity of contexts (countries and regions) and of conflicts (different forms of violence, motivations, duration, etc.). In the present moment, an important portion of the evidence comes from the Middle-East and the specific ethno-political conflict that characterizes this region; when Latin America, Africa and Asia also offer the possibility of studying the effects of war.

Second, morality needs to be observed more systematically. Too few outcomes have been evaluated in multiple studies and too heterogeneously. Moral outcomes should be defined more clearly, and measured more consistently and frequently, so that comparisons can be made. Also, since morality poses the challenge of being such a wide construct, studies should observe more moral outcomes. New components of human morality need be explored: social emotions (e.g. shame, guilt, anger, compassion), fairness, reciprocity, loyalty, reputation and attitudes towards war, authority, rules, among others.

Furthermore, it is imperative to expand from evaluating these moral outcomes with singles sources and/or questionnaires to other types of instruments. The use of only one source introduces substantial bias. Results of different sources (child, parent, peers, etc.) should be cross-referenced. Additionally, we need to observe more actual moral behavior through behavioral tasks or natural observations. Most research to date is based on what the child or adolescent states he would do and not what he actually does, and the two can be considerably different. Plus, ultimately moral behavior is more relevant on a social level than what a person thinks they ought to do. The integration of these

complementary measures of moral outcomes can offer more clear-cut information on violence effect on morality.

Third, future research should continue to investigate possible interactions and mechanisms in the relationship between violence exposure and morality. This is promising way to work towards the clarification of the different directions in the effects. Some factors that are worth examining more closely are: parenting, child temperament, social norms of culture, ages when people were exposed, length of time since exposure, different types of traumatic war events experienced, and conditions in which the participants are currently in. To do so it is crucial to have comparison groups, which many studies lacked.

Recognizing the limitations of cross-sectional research in establishing causal pathways, studies should be prioritizing longitudinal designs. Given the complexity of group-based conflicts and moral development and mixed results, longitudinal studies can help to isolate cause-effect relationship between these variables and the role of other variables that are interacting.

Conclusion

Research on the socio-moral effects of child and teenage exposure to inter-group violence is still nascent. To date, most studies suggest that there is an effect and that it is usually negative. However, a few results showing positive outcomes, no effects, and mediators and moderators, also point towards the conclusion that whether the violence of inter-group conflicts exerts an effect and in what direction, depends on other variables. Future research is key to confirm or refute this hypothesis and, if true, to identify the variables that crystalize negative outcomes, that protect from negative effects and most importantly the ones that can foster positive outcomes.

In order to do so, research should expand to other countries and inter-group conflicts so that more contextual variables can be compared. Moral outcomes need to be more systematically studied through consistent definitions of each outcome, evaluation of multiple outcomes and use of better

techniques (cross-reference by different sources, plus behavioral measures). More research should be done examining possible interactions and mechanisms in the effects of inter-group violence on the different moral outcomes. Finally, research should prioritize longitudinal designs in order to accurately establish a causal relationship and the effects of interactions.

Besides advancing the knowledge on moral development, the findings of this future research will have important implications on policies and services offered to societies that experience some forms of warfare. Local governments and other organizations will be better informed on how to protect youth growing up amidst the hardships of violence and how to foster psycho-social adjustment during or after the conflict. The latter could be of particular importance, as posterior recounting and integration of war experiences could be therapeutic and enable a functional sense of moral agency (Wainryb & Pasupathi, 2010). If exposed youth can even behave more prosocial, then this could improve not only their well-being but contribute to discontinue the violence and rebuild the social fabric in the societies that struggle with group-based violent conflicts. The conclusions of this systematic review indicate that this is feasible and, thus, relevant and urgent.

The main limitations of this work is that the review was carried out by only one author and that quantitative standardized evaluation of the quality of the studies was not made. Studies had different tools to measure exposure to violence and outcomes, and different designs and statistical analysis. As a consequence, the results were heterogeneous results and difficult to compare. Among the strengths of the review, it carried out an extensive and detailed search of articles in databases with a wide range of years of publication and no filter for language. Literature in English and Spanish was hence included. In order to avoid selection bias and errors in the extraction, the categories to be coded were constructed during the selection and extraction phase.

This appears to be the first systematic review on the existing literature on the effects that exposure to warfare has on the morality of children and adolescents. As such, it contributes to revise,

integrate and criticize research on this field, and provide recommendations and opportunities for future research to advance our knowledge of moral development especially outside the WEIRD population, and work towards solutions for the individual and collective damage created by inter-group violence.

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